



## CALIFORNIA HIGH-SPEED RAIL AUTHORITY

**From:** Mehdi Morshed  
**To:** CHSRA Board  
**Date:** September 18, 2009  
**Subject:** ARRA Applications for Track 2 Funding

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### BACKGROUND

A total of \$8 billion in federal funding is currently available through the High-Speed Intercity Passenger Rail (HSIPR) Program, designated for intercity and high-speed rail projects across the country. The guidance issued by the Federal Railroad Administration (FRA) for administering this Program established four “tracks” as follows:

- Track 1 Projects (funded under the American Recovery and Reinvestment Act (ARRA))
- Track 2 Service Development Program (funded under ARRA)
- Track 3 Service Planning Activities (funded under FY 2008 and FY2009 DOT Appropriations Acts)
- Track 4 Projects (funded under the FY09 Appropriations Acts)

California’s applications for Track 1, 3 and 4 grants were submitted by the Governor on August 24, 2009, and totaled \$1.1 billion, focusing on improvements to existing intercity passenger rail services and near-term job creation. In adherence to the federal requirements, Track 1, 3 and 4 applications were for improvements to existing passenger rail lines, including the integration of high-speed rail with intercity passenger service. California’s Track 1 application included a request for \$400 million for the TransBay Terminal project in San Francisco.

On September 3, the Board directed staff to prepare ARRA Track 2 grant applications encompassing each section of the proposed high-speed rail route: completion of the EIS/EIR documents for each of the 10<sup>1</sup> sections, Preliminary Engineering (PE) for all Phase 1 Corridor sections, and Final Design and Construction of four sections (San Francisco–San Jose, Merced–Fresno, Fresno–Bakersfield, and Los Angeles–Anaheim). A total cost target of \$9 billion in Year-of-Expenditure was established for the four D/B Corridor Programs. A dollar-for-dollar match of state and local funds was to be used to match the federal share of \$4.5 billion. These proposed grant applications will be consistent with the Pre-applications that were submitted to the FRA in July 2009 by the Governor.

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<sup>1</sup> Note: Nine of the sections are part of the HST Project. The tenth section is the Altamont Corridor Rail Project. Subsequent to the submittal of the HSIPR Track 2 Pre-Applications in July 2009, the Authority and FRA have agreed to split the Merced to Bakersfield section into two sections: Merced – Fresno and Fresno-Bakersfield.

California's Track 2 applications, which must be submitted by no later than October 2, 2009, are currently being prepared by Authority staff and consultants for Board approval and submission to the Governor. The Governor will submit the grant applications to the FRA as he did with the State's Track 1, 3, and 4 grant applications.

## **TIMELINE**

The FRA guidance established the following timeline for Track 2 applications:

- Pre-application and comment: July 10, 2009
- Application: October 2, 2009
- FRA Decisions on Award to Be Made: Unknown / although the federal government has indicated 3-4 months for any decisions
- FRA Obligation/Letter of Intent (LOI): no later than Sept. 30, 2011
- Corridor Program Environmental Approval (ROD/NOD): no later than Sept. 30, 2011
- Begin construction: no later than Sept. 30, 2012
- Project Completion: no later than Sept. 30, 2017

## **CHSRA PROGRAM PROPOSALS**

Consistent with the pre-application submitted by the Governor, and with the Board's guidance received on September 3, the staff and consultants have reviewed the corridors and found the following seven Corridor Programs meet the requirements for Track 2 funding. The total cost and proposed federal share for each Corridor Program is also listed below.

<b>ARRA Track 2 Proposals</b>		<b>Total Cost (YOE\$ in millions)</b>	<b>Federal Share (YOE\$ in millions)</b>
<b>Preliminary Engineering- NEPA/CEQA Corridor Programs:</b>			
<b>1</b>	<b>CA-PHASE1HSRPROGRAM-PE/NEPA/CEQA</b>	<b>\$388</b>	<b>\$194</b>
		\$61	\$30.5
	a. CA-SF/SANJOSEHSR-PE/NEPA/CEQA	\$60	\$30
	b. CA-SANJOSE/MERCEDHSR-PE/NEPA/CEQA		
	c. CA-MERCED/FRESNOHSR-PE/NEPA/CEQA	\$42	\$21
	d. CA-FRESNO/BAKERSFIELDHSR-PE/NEPA/CEQA	\$75	\$37.5
	e. CA-BAKERSFIELD/PALMDALEHSR-PE/NEPA/CEQA	\$40	\$20
	f. CA-PALMDALE/LAHSR-PE/NEPA/CEQA	\$80	\$40
	g. CA-LA/ANAHEIMHSR-PE/NEPA/CEQA	\$30	\$15
<b>2</b>	<b>CA-PHASE2HSR-NEPA/CEQA</b>	<b>\$120</b>	<b>\$60</b>
	a. CA-MERCED/SACRAMENTOHRSR-NEPA/CEQA	\$35	\$17.5
	b. CA-LA/SANDIEGOHSR-NEPA/CEQA	\$85	\$42.5
<b>3</b>	<b>CA-ALTAMONTCORRIDORRAIL-NEPA/CEQA</b>	<b>\$45</b>	<b>\$22.5</b>
<b>Design/Build Corridor Programs:</b>			
<b>4</b>	<b>CA-SF/SANJOSEHSR-DESIGN/BUILD</b>	<b>\$2,560</b>	<b>\$1,280</b>
<b>5</b>	<b>CA-MERCED/FRESNOHSR-DESIGN/BUILD</b>	<b>\$932</b>	<b>\$466</b>
<b>6</b>	<b>CA-FRESNO/BAKERSFIELDHSR-DESIGN/BUILD</b>	<b>\$1,639</b>	<b>\$819.5</b>

7	CA-LA/ANAHEIMHSR-DESIGN/BUILD	<u>\$4,005</u>	<u>\$2,002.5</u>
<b>Total Design/Build Corridor Programs</b>		<b>\$9,136</b>	<b>\$4,568</b>

Note: The names of the above Corridor Programs (numbered 1-7) and Projects (lettered a, b,...) were assigned in accordance with the FRA application instructions.

### **PE/Environmental Review Applications**

The first grant proposal listed above requests funding for Preliminary Engineering as well as preparation of NEPA/CEQA documents for seven Phase 1 HSR Corridor Projects.

The second and third grant proposals listed above request funding for the two Phase 2 HSR Corridor Projects, plus the Altamont Corridor Rail project. These proposals will include NEPA/CEQA work, and Preliminary Engineering only up to a 15% level of design.

The Authority is preparing EIR/EIS documents to obtain an approved Notice of Determination (NOD) and Record of Decision (ROD) for each of the above ten sections comprising the entire 800-mile California HSR system.

As part of the PE effort, the Authority is also in discussion with the FRA to facilitate a draft Rule of Particular Applicability and associated waivers by the summer of 2010 to enable construction bidding documents to appropriately reflect FRA requirements to operate trains at 220 mph.

### **Final Design and Construction Applications**

Four applications are being prepared for Final Design and Construction of the following CHSRA sections:

#### ***San Francisco-San Jose Section***

##### *Route Description*

Route will be co-located with Caltrain's Peninsula Commuter Rail Corridor between San Francisco and San Jose.

##### *Assumptions*

- Proposal includes all of the Metropolitan Transportation Commission's Phase 1 High-Speed Rail scope, except for Transbay Transit Center costs submitted earlier under the ARRA Track 1 by the Transbay Joint Powers Authority. Only limited additional funding is being requested by the Authority under Track 2 for Transbay Terminal Rail Platform Extensions (as shown in the table below).
- Positive Train Control, complying with FRA requirements, is included to facilitate the construction of HSR infrastructure while maintaining Caltrain operations.
- Includes San Bruno Grade Separations and other High-Priority Grade Separations up to the dollar limit shown.

- Proposal includes a complete, integrated Peninsula Rail Corridor electrification system that would support both Caltrain and HSR service, except for construction of the Overhead Contact System above future HSR tracks, which are not being built as part of this Program application.
- Includes both Diridon Station (Phase 1) and 4<sup>th</sup> & King Station (Phase 1) improvements.

#### *Independent Utility*

- In the event the HSR system does not proceed according to plan, the MTC Phase I projects will serve Caltrain immediately and are fully-compatible with the HSR operational requirements.
- The Phase II funding continues the work begun under Phase I.
- The Authority has requested a letter from Caltrain to be included in the application confirming the “independent utility” of these proposed improvements.

#### *Environmental Review*

FRA Record of Decision (ROD) is scheduled to be issued by the September 2011 ARRA mandate. The Phase I projects have already received FTA environmental approval, which should expedite the FRA approval.

#### **Summary of San Francisco to San Jose Section Costs**

<b>ARRA Track 2 Corridor Program Name: CA-SF/SANJOSEHSR-DESIGN/BUILD</b>	<b>Total Cost (<u>YOES\$ in Millions</u>)</b>
<b>Program Elements</b>	
Transbay Terminal Rail Platform Extensions	\$205
4 <sup>th</sup> and King (Phase I)	\$100
San Bruno Grade Separations	\$300
High-Priority Grade Separations	\$689
Corridor Electrification	\$885
Positive Train Control	\$231
Diridon Station Phase I	<u>\$150</u>
<b>Total Cost</b>	<b>\$2,560</b>
State & Local Share (dollar-for-dollar match)	<b>\$1,280</b>
Federal Share	<b>\$1,280</b>

Based on Phase I (MTC list, June 2009) plus added CHSRA electrification and additional High-Priority Grade Separations

## ***Merced – Fresno Section***

### ***Proposal***

Construct HSR infrastructure including track but not electrification and other HSR “systems” for 220 mph operation in the 50-mile section between Merced and Fresno.

### ***Proposal Assumptions:***

- HSR tracks would parallel the Union Pacific Railroad (UPRR) route and State Route (SR) 99.
- Includes ROW acquisition adjacent to UPRR, grade separations, SR99 interchange modifications, utility relocation, environmental mitigation, earthwork, guideway structures, and track.

### ***Estimated Cost Summary*** (see breakdown below)

Total Capital Cost: \$932 million (YOE)

State & Local Share: \$466 million (YOE)

Federal Share: \$466 million (YOE)

### ***Independent Utility***

- Independent utility is provided by constructing approximately 50 miles of new high-speed double-track railroad between Merced and Fresno allowing connection into conventional rail passenger services at each end.
- Undertaking the highway modifications and grade separations of the UPRR early in the CHST Project would provide immediate safety and traffic-flow benefits complimentary to Caltrans’ “SR 99 Corridor Program” under the Highway Safety, Traffic Reduction, Air Quality and Port Security Bond Act of 2006.
- The Authority has requested a letter from Caltrans Division of Rail to be included with the application, confirming the “independent utility” of these proposed improvements.

### ***Environmental Review***

- Authority is expediting environmental clearance (NOD/ROD) of this segment to Sept 2011.
- Splitting NOI / NOP from Fresno-Bakersfield segment should simplify the environmental review process.

<b>Merced-Fresno Capital Costs</b>	<b>YOE\$ in Millions</b>
Track and Structures	\$603
ROW and Sitework	\$208
Professional Services	\$88

Unallocated Contingency	<u>\$33</u>
<b>Total Cost</b>	<b>\$932</b>
State & Local Share	\$466
Federal Share	\$466

### ***Fresno-Bakersfield Section***

#### *Proposal*

Construct HSR infrastructure including track but not the electrification and other HSR “systems” for up to 220-mph operation.

#### *Proposal includes:*

- Relocation of BNSF track within their existing right-of-way (ROW) to make room for new HSR tracks to run generally adjacent to the freight tracks.
- Right-of-way acquisition, grade-separations, utility relocation, environmental mitigation, earthwork, guideway structures, and track.

#### *Proposed Route*

Approximately 98-miles long, from just south of the Fresno metropolitan area to an area just north of the Bakersfield metropolitan area. Includes work in the towns of Corcoran, Wasco, and Shafter. The alignment could accommodate a possible future Visalia/Tulare/Hanford station.

#### *Estimated Cost Summary* (see breakdown below)

Total Capital Cost: \$1,639 million (YOE)

State and Local Funding: \$819.5 (YOE)

Federal Share: \$819.5 million (YOE)

#### *Independent Utility*

- Independent utility is provided by constructing approximately 98 miles of new high-speed double track between Fresno and Bakersfield, connecting to BNSF tracks at the north and south ends, providing a grade-separated, dedicated route for use by Amtrak if HSR-system implementation is delayed that would greatly improve safety and trip time.
- The Authority has requested a letter from Caltrans Division of Rail to be included with the application, confirming the “independent utility” of these proposed improvements.

#### *Environmental Review*

- Authority is expediting environmental clearance (NOD/ROD) of this segment to Sept 2011

<b>Fresno-Bakersfield Capital Costs</b>	<b>YOE\$ in Millions</b>
Track and Structures	\$749
ROW and Sitework	\$690
Professional Services	\$142

Unallocated Contingency	<u>\$58</u>
<b>Total Cost</b>	<b>\$1,639</b>
State & Local Share	\$819.5
Federal Share	\$819.5

### ***Los Angeles – Anaheim Section***

#### *Proposal*

Construct the HSR infrastructure including track (but not electrification and other HSR “systems” elements) in this 30.1-mile segment that parallels the existing freight and passenger LOSSAN rail corridor.

#### *Proposal includes:*

- HSR facilities at Los Angeles Union Station (LAUS), Norwalk Station, and the Anaheim Regional Transportation Intermodal Center (ARTIC).
- Right-of-way acquisition, grade-separations, utility relocation, environmental mitigation, earthwork, guideway structures, tunneling, and trackwork. It does not include a maintenance facility.

#### *Estimated Cost Summary* (see breakdown below)

Total Capital Cost: \$4,005 million (YOE)

State and Local Funding: \$2,002.5 (YOE)

Federal Share: \$2,002.5 million (YOE)

#### *Independent Utility*

- HSR infrastructure could be used by Metrolink in the interim (or longer-term until Phase 1 HSR system is completed) using higher-speed, lighter-weight trains.
- The Authority has requested a letter from LAMTA/OCTA to be included with the application, confirming the “independent utility” of these proposed improvements.

#### *Environmental Review*

FRA Record of Decision (ROD) is scheduled to be issued in April 2011 well in advance of the September 2011 ARRA mandate.

<b>LA-Anaheim Capital Costs</b>	<b>YOE\$ in Millions</b>
Track and Structures	\$1,126
Stations	\$556
ROW and Sitework	\$1,770
Professional Services	\$404
Unallocated Contingency	<u>\$149</u>
<b>Total Cost</b>	<b>\$4,005</b>
State & Local Share	\$2,002.5
Federal Share	\$2,002.5

## **DISCUSSION**

As part of the updating capital cost estimates in support of the applications for the ARRA grants, the capital costs had to be represented in 2010 Base Year with further escalation to the Year of Expenditure (YOE) in accordance with the FRA requirements. The cost estimate updates were based on the programmatic level estimate last updated in August 2008 as represented by the Authority's Business Plan. The escalation process was based on actual published data between years 2008 and 2009, and based on forecasted inflation rates for year 2010 and beyond.

### **Published Cost Index Data**

In review of the ENR published Construction Cost Index (CCI) inflation recorded between August of 2008 and August 2009 are:

CCI (Aug, 2008) = 8362

CCI (Aug, 2009) = 8564

The resulting recorded inflation rate between 2008 and 2009 based on ENR CCI is 2.42%.

As a check, California Construction Cost Index (CCCI) was reviewed for the same time period:

CCCI (Aug, 2008) = 5142

CCCI (Aug, 2009) = 5265

The resulting recorded inflation rate between 2008 and 2009 based on CCCI is 2.39%.

The assumed rate inflation between years 2008 and 2009 is **2.40%**.

### **Forecasted Inflation Rates**

Following IMG Team's recommendation to the Authority regarding long-term annual construction cost inflation of **3.50%**, and taking into account recorded construction inflation rates, the following inflation rates were assumed:

2009 to 2010 – **3.0%**

2010 and beyond – **3.5%**

### **YOE Calculation**

In accordance with the FRA instructions, the capital costs represented in Standard Cost Categories (SCC) were first escalated to the Base Year, 2010. Following projected construction duration and generally accepted sequence of major construction activities, the Base Year costs were distributed across implementation years while escalating each allocation. The summation of all distributed and escalated costs for each SCC and in total results in the projected YOE cost estimate.

### **“Independent Utility”**

Beyond the independent utility of each section described above (based on a scenario in which the HSR program does not proceed as planned), it is important to describe how we do envision the Statewide HSR program proceeding to revenue service by 2020. The Business Plan currently being prepared will describe this in much greater detail, but it is important to note that these ARRA-funded Track 2 Corridor Programs are just the first step of the plan to implement sections of the statewide system. As funding is identified these initial sections will be linked together to create a Minimum Operable Segment and ultimately the Full-Build System. So the “utility” of



each of these ARRA Corridor Programs is to advance the HSR project in buildable pieces as quickly as possible.

**Required Action**

Staff requests approval of the seven ARRA Track 2 Corridor Program applications and guidance on any desired changes needed prior to submission to the FRA on October 2, 2009.